as needed before breakfast, carried them comfortably through the day. This observation is at variance with the findings of O'Hare and Hoyt, who state that relief usually comes only after several days of treatment.

I have not in any of my patients observed a fall in blood pressure that would seem to be due to the use of the extract. Its use in tinnitus, "fullness in the head," dizziness, and so forth, not associated with hypertension, has afforded no relief. There has been no toxic effect noted in any patient, nor has prolonged administration thus far resulted in lessened efficacy.

There is certainly some question as to the therapeutic wisdom of artificially lowering blood pressure except where the pressure is suddenly and unduly elevated. Subjectively such procedure often produces physical depression that is more distressing than the original state. There is some satisfaction, therefore, in having available a drug which will relieve symptoms without other apparent systemic effect.

The preparation used and referred to in the report of O'Hare and Hoyt and in this article is Intrait de Gui, manufactured by Dausse et Cie of Paris, and distributed in this country by Fougera & Co. Because the drug does not seem to be generally known, it has seemed worth while to call attention to it and to thus stimulate further observation as to its value.

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UNIVERSITY OF CALIFORNIA HOSPITAL—MEDICAL DIVISION*

REPORTS AND DISCUSSIONS ON PATIENTS HAVING TUBERCULOSIS INVOLVING THE EYES

PATIENT: Miss K. D. Admission No. 78001; single; female; age twenty-two. Entered University of California Hospital medical teaching service September 1, 1930.

Chief Complaints.—Weakness for nine weeks. Pain along costal margin for five weeks.

Present Illness.—About four months ago—around May 1—patient had some pleuritic pain at left apex which lasted two days. Prior to this she had been in good health and she was in good health following this until nine weeks ago, when she began to feel tired and felt that she would like to go to bed. She continued to work for one week without much change in her condition. On arriving home one evening about eight weeks ago, she felt chilly and went to bed. She believed she had fever during the night. She remained in bed for four days without any decrease in her sense of fatigue, and then called a physician. He told her she was run-down, anemic, and had some fever, and advised her to stay in bed. He gave her a tonic, which she thinks contained some iron, and some powders. She followed his instructions for three weeks without any noticeable change in her condition. Her physician then advised her to go to the mountains for a week or so to recuperate. About this time, five weeks ago, she began to have a dull pain under both costal margins which would come on when she would take a big breath, would sneeze, or cough. There was no radiation of the pain. She went to the country for a week. The pain did not leave, and her sense of fatigue was still present. Since then, four weeks ago, she has improved somewhat, but has not gotten entirely well. She has had no cough, sputum, hemoptysis, noctidrosis, nausea, or vomiting. Her appetite was poor at first, but during the past four weeks has been good.

Family History.—No familial tendencies known.

Previous History.—Residences: San Francisco all her life.

Diseases: Influenza at ages of 10 and 12. Others unimportant.

Systems:

Nose: Has had some nose-bleeds every three to six months for years. Would bleed for an hour or so each time. She noted that her eyes would have a blue cast to them after each bleeding.

Cardiorespiratory: Occasional palpitation.

Gastro-intestinal: Constipated for years. Takes milk of magnesia every night or so. Thinks she has hemorrhoids, which have bled on two occasions recently with bowel movements. Had an attack of pain in right lower abdomen two weeks ago which lasted only a short time.

Nervous and mental: Has always been nervous. Has been very irritable since onset of present illness, and has wept on several occasions without apparent reason.

Lymphatics: Node in right anterior cervical triangle was lanced two years ago. Ten weeks ago she noticed a swelling in the right axilla, accompanied by some pain, but no redness. The pain has gone, but the lump is still there and feels harder than at first.

Catamania: Flow has become more scanty since onset of present illness. Otherwise unimportant.

Other past history: Unimportant.

Physical Examination.—General: Patient is an agreeable, coöperative young woman who does not appear to be sick. She is more concerned about her nervousness than about her pain or fever.

Eyes: Normal except for fundus.

Left fundus: "Well toward the periphery and above a small branch of the superior nasal vein is a small, raised, woolly looking patch of exudate surrounded by edema. Conclusions: Miliary tubercle of the choroid" (Doctor Cordes).

Mouth: Tongue protrudes in mid-line, is tremulous, and slightly coated. Tonsils small. Mucous membranes seem normal.

Neck: Visible pulsations at base of neck on each side.

Skin: Soft, warm, with some sweating of palms and axillae. Scar of old incision on right side of neck.

Lymph nodes: No enlargement. In right axilla is a tubular mass about 1.5 by 2 centimeters which seems to be attached to a cord-like structure which passes from the axilla along the inner surface of the arm about one-third of the way to the elbow. It is slightly tender, movable, and seems to be subcutaneous. It appears to be a thrombosed vein.

Chest: Well-developed, symmetrical. Slight increase in depth of supraclavicular fossae. Expansion good and equal. Vocal fremitus slightly diminished at bases posteriorly. Resonance impaired at bases posteriorly. Breath sounds distant at bases posteriorly, and over anterior chests, and very loud over upper chests posteriorly. Whispered and spoken voice diminished anteriorly. Some coarse subcrepitant râles at bases posteriorly. Some pleural crepitation in mid-axillary line on right.

On several occasions after this, examination of the lungs by two other members of the staff was nega-

* This report gives discussions on patients presented at the Wednesday morning staff conferences.

tive. One week after entry, crepitant râles were heard at the left apex and over the upper portion of the left lower lobe.

Heart: Pulmonic second sound louder than aortic second sound. Blood pressure 124 systolic, and 70 diastolic.

Abdomen: Negative.

Breasts: Negative.

Back: Slight scoliosis to left in lumbodorsal region.

Extremities: Slight clubbing of fingers.

Reflexes: Normal, except absent abdominals.

Rectal and pelvic: Negative.

Laboratory.—Blood Wassermann: Negative.

Blood: Hemoglobin, 80 per cent (Sahli); red cells, 7,100,000; white cells, 9050; polymorphonuclears, 57 per cent; eosinophils, 2 per cent; lymphocytes, 24 per cent; transitionals, 15 per cent; smudges, 2 per cent; smear: some central pallor of red cells, polymorphonuclears show many young forms; no malarial parasites seen; platelets normal. Blood cultures taken when temperature was 38 degrees Centigrade, negative; taken when temperature was 39 degrees Centigrade, negative.

Second blood count: Hemoglobin, 70 per cent; red cells, 4,180,000; white cells, 5600; polymorphonuclears, 69 per cent; lymphocytes, 25 per cent.

Agglutination tests: Serum failed to agglutinate ***B. typhosus***; Para A and B; ***B. enteritidis***; ***Br. melitensis*** and ***abortus***; and ***B. tularense.***

Urine: Negative, except a slight trace of albumin on two occasions, but none on the third.

Sputum: Clear, watery, small in amount; many short-chain streptococci, and short, plump rods. No acid-fast organisms.

X-ray of chest, fluoroscopic and roentgenographic: "There are a large number of pin-head sized shadows scattered throughout both lung fields, indicating a widely disseminated infection—miliary tuberculosis. There are a few denser, larger spots in the lower part of the right upper lobe, suggesting that there is a primary lesion at this point." (Doctor Stone.)

DISCUSSION

Doctor Ruggles (X-ray Department): From our standpoint this is quite a characteristic disseminated pulmonary tuberculosis. All the spots are about the same age. The spleen is not particularly enlarged, but a little enlarged. I do not see that we can say that it is anything but acute disseminated tuberculosis.

Doctor Maisler (Resident, Eye, Ear, Nose, and Throat): It is not uncommon to see tubercles of the eye, and without tuberculosis any place else. The tuberculous choroid is of the miliary type. The lesion, as most of you saw, was on the nasal side, and was characterized by yellowish discoloration and edema. This picture is different from tuberculosis of other types in the eye. Under the microscope is shown a tubercle with the typical pathology, including giant cells. It is quite common to find the miliary type associated with meningeal involvement, but that seems to be absent here.

Doctor Allen: I do not think that there is a great deal to say. These cases are hard to diagnose, particularly in the early stages. The x-ray has been of very great help. To make the diagnosis difficult a certain number of cases of this kind give a positive typhoid agglutination. But as we see this case now with the x-ray films and the eye findings, there seems to be no question of the diagnosis.

Doctor DuBray: I can certainly concur in what Doctor Allen has said about the difficulty of diagnosis. The x-ray of the chest has been very helpful in this case; except for the fever, it constitutes the only definite findings that we have. I have read concerning the work that Dorothy Clark has done in growing tubercle bacilli in culture; but it required such a very difficult technique that a routine procedure could not be developed. We still have to rely on the clinical picture—the fever and the x-rays of the chest.

Doctor Kerr: Have you any suggestions about treatment?

Doctor DuBray: No, I haven't. I was just wondering what the prognosis of this case would be.

Doctor Hein: I might call attention to another form of tuberculosis of the eye sometimes associated with the miliary type. A man whom we saw with tuberculosis of the iris suddenly showed a number of tubercles in the fundus. The one thing that impresses me in these cases is the necessity of early diagnosis and the hopelessness of the case when it reaches this stage. We had two nurses some time ago, both of whom began their symptoms with a tired feeling. After one of them had been ill for three or four months, during which time she had had chest plates taken which were negative, and no fever to speak of, the films became positive. The other girl had no symptoms at all but tiredness. Both ran the usual course of miliary tuberculosis, and died. The prognosis is very bad.

Doctor Kerr: Doctor Schumacher, have you tried to grow the tubercles in culture?

Doctor Schumacher: No.

Doctor Hein: In two cases we have injected tubercles in the blood of guinea pigs, but with no results.

Doctor Kerr: It didn't seem to me that there was the usual tympanitic note which we often get in miliary tuberculosis. One may also hear some fine, consonating râles. Sometimes this is the first indication of a miliary tuberculosis with pulmonary involvement. The prognosis is pretty hopeless. I think that we should do everything we can in the way of rest and the usual treatment for tuberculosis; but there is not much else that we can do.

Dr. E. Anderson: Would you do a spinal puncture in this case?

Doctor Kerr: I do not think that we would gain anything; and we might do some harm.

Doctor Schumacher: Spinal fluid might be injected into a guinea pig with good results.

Doctor Kerr: Does she show any meningeal symptoms at all?

Doctor Steven: No.

Doctor Cordes: Isolated patches of tuberculosis of the choroid or of the uveal tract are not uncommon, and very often are associated with no demonstrable tuberculosis elsewhere.

In this case we have a miliary tubercle of the choroid, a small, ill-defined, yellowish, rather woolly looking patch in the choroid of the left eye, above one of the temporal vessels. This type changes very rapidly, coming up suddenly, and without pigment changes. This distinguishes the miliary tubercle from the usual tuberculous areas which change very slowly. Ordinarily only a few are present, although sometimes fifteen to twenty may be present in one eye. As pointed out by Doctor Maisler, histologically these tubercles, which are about one millimeter in diameter, possess the typical structure of a tubercle.

Miliary tuberculosis of the choroid is usually associated with a tuberculous meningitis; in fact, this is the first case I have seen in which this condition was not present. From the presence of the miliary tubercle of the choroid, one would feel that a generalized miliary tuberculosis is present.

Course since above discussion (Doctor Steven): On September 7, 1930, patient first complained of anorexia and stiffness of the neck. On September 10 this was still present, and there seemed to be some spasm of the muscles of the neck. There was a questionably positive Brudzinsky, but no Kernig. She was transferred to the San Francisco Hospital, where she died about one week later of tuberculous meningitis. There was no autopsy. During the last week her headache increased, her neck became definitely stiff, and she developed cerebral symptoms. She was unconscious the last day of her life.